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ABSTRACT

A study evaluated the impact of microcomputers and software in advertising media courses by surveying media planning instructors in 71 (out of 111) colleges and universities. The survey asked instructors to evaluate textbooks, workbooks, and computer software; to assess the impact of software on the media course; and to compare software users with non-users. Results showed that software users spent more time than non-users teaching theoretical media concepts. Results further indicated that professors who used to teach media planning without software showed a moderate to extreme increase in satisfaction after adopting computer software. Results also suggest that dedicated media planning software helped to lift a significant part of the burden of repetitive calculations required in creating a complex multi-media plan, allowing more time for thinking through complex marketing problems and writing strategically sound plans. (Three tables of data are included.) (PRA)

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Impact of Computer Software on Advertising Media Courses: A Study of 71 Colleges and Universities

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Abstract

Impact of Computer Software on Advertising Media Courses: A Study of 71 Colleges and Universities

Computer software has now penetrated half of the ***organized advertising programs*** in the nation. This study provides evidence that dedicated media planning software has become a catalyst for significant change in most of the advertising programs where it has been adopted. The most recent study that addressed computer applications in the advertising media course was conducted in 1988, but was much more broad in scope.

Impact of Computer Software on Advertising Media Courses: A Study of 71 Colleges and Universities

A rudimentary knowledge of math and an awareness of how to calculate CPMs and GRPs won't do the trick, as buying and planning media becomes more numbers oriented. . .The ability to judge media properties on a social/emotional level is becoming just as important as watching the numbers. From "Media Survey," Advertising Age, April 9, 1990.

It's been a decade since Steven Jobs' first generation of Apple II personal computers allowed advertising professors to experiment with reach/frequency models, or computer assisted instructional software. The wonder of the PC revolution is that it gave ordinary mortals license to cut the umbilical cord to main frame computers. Academics were suddenly free to lug their Apples home for the summer, and to play like children at last weaned from the university's motherboard. The result: A decade of experimentation, wandering, searching, floundering, failing and succeeding. . . probably failing much more often than succeeding. Most scholars knew that some day the personal computer would become an essential tool in the media planning course. The only question was, when?

In 1988, Kent M. Lancaster and Thomas C. Martin introduced *Ad Lab* as the first full featured instructional media planning software tool that would run on both IBM/compatibles and Macintosh computers. According to their own mail survey conducted in April 1988, at least 14 schools were using *Ad Lab* out of the 64 different colleges or universities that responded to the survey. (*Journalism Educator*, Winter, 1989) In 1989, Dennis Martin and Dale Coons introduced *Media Flight Plan*, a software tool also intended for IBM and Macintosh platforms, and with the same fundamental goal in mind: to computerize the media planning course, to simplify the complex, and to make it easier for instructors and students to develop complete multi-media plans. (*Comm World*, BYU Newsletter, November, 1990)

To the authors' knowledge, no research has been published discussing the application of computers in the media course since Kent Lancaster and Thomas Martin published their findings in *Journalism Educator* in the Winter edition of 1989. Their paper was titled: *Teachers of advertising media courses describe techniques, show computer applications.* Seventy-seven instructors responded from 64 colleges or universities. Their study was quite comprehensive, and addressed many questions unrelated to computer software for advertising media courses. For example, in addition to computer related media questions, it covered the type of institution offering the subject, the nature of the course within the curriculum, course syllabi, distribution of faculty time, faculty publishing on advertising media, use of textbooks, lectures, main frame and microcomputers and their uses by faculty and students, software applications, lab work, projects, reading lists, media data used, student career placement, and the biggest problems in teaching the media course.

Prior to the Lancaster paper, the only other significant study of the advertising media course was a compilation of five papers edited by Alan Fletcher on *Teaching the Advertising Media Course*. (Fletcher, 1976) A simulated media game (for main frame computers) was the only computer related topic among these papers. Results of a mail questionnaire, responded to by 29 media instructors, was also included. (Jugenheimer, 1976) Jugenheimer's work became a benchmark study in the field, and was replicated in Lancaster and Martin's 1988 study.

Research Objective

It has been three years since the the Lancaster study was conducted. With technology advancing exponentially, there is a need to expand a very small body of knowledge relating to the use of computers and software in the advertising media course. Moreover, the authors have discovered that in just three years new technologies have penetrated the media course so thoroughly that frequent studies will continue to be necessary if scholars hope to keep pace with change. Although the Lancaster study will serve as touchstone, because of the proliferation of new computer technologies, this research will take a more narrow focus. The objective: Evaluate the impact of microcomputers and software in the advertising media course.

Method - 97% of schools that teach media included in sample

A telephone survey was conducted in February and March of 1991. The authors settled for an initial goal of interviewing at least one media instructor in every organized advertising

program in the U.S. The goal was to contact 100 percent of all colleges and universities that offer organized advertising programs. After the initial survey results were computed, the source for funding (the Dean's office at both BYU and Syracuse), was encouraged enough by the results that extra budget was promised to fund additional telephone surveys at schools that have more than one media instructor. Hence, this paper should be viewed as an on-going study that will be revised and submitted to a journal. It is estimated that 20 additional phone calls need to be made to include all media professors, i.e. - professors at schools with more than one regular media instructor. Nevertheless, the authors feel confident about the integrity of the results reported here, and that the data is indicative of a trend developing in most advertising programs. In short, 20 additional respondents are unlikely to cause major fluctuations in the results of this study.

The universe for this study is a list of 111 colleges or universities that have an "organized advertising program." This list was derived from the 1991 edition of *Where Shall I Go To College To Study Advertising*? (Billy I. Ross, 1991) Although some advertising/marketing programs not mentioned in Ross' list do include quality media planning instruction (often integrated into other courses) the authors were forced by the budget constraints of a telephone survey to settle on a recognized, tightly defined universe. It was the judgment of the authors that Ross' list of 111 "organized advertising programs," (updated annually for over 15 years) provided a clearly defined, well recognized universe. Moreover, this universe is sufficiently dedicated to advertising instruction that it can be viewed as a bellweather for identifying changes in the advertising media course. Another of Billy Ross' texts, *The Status of Advertising*, was also helpful in estimating the number of "organized programs" that teach media. Approximately 1,000 institutions teach advertising courses, according to Ross, but only 111 qualify as "organized advertising programs." To be included in Ross' 1991 study as an "organized program," a school had to fulfill three minimum requirements:

1. The school indicated a recommended sequence of courses for the advertising student.
2. The school's catalog stated that an advertising program existed.
3. The school required at least three specifically titled advertising courses.

Using Ross' list of 111 "organized advertising programs," the authors trained, and paid two students to phone the department secretary in each of the 111 schools on Ross' list, and to screen their advertising program. Department secretaries in 111 target schools were asked two questions:

1. *Does your program include an undergraduate advertising media course of any kind?*
If the answer was yes, the response was noted. If the respondent was the least bit uncertain, interviewers then asked him/her to check the school catalog to make certain.
2. *Name the professors who teach the media course, and their office/home phone numbers?*
If more than one instructor taught the course, their names/phone numbers were also noted.

After screening of the 111 schools was conducted at Brigham Young University, Carla Vacarro Lloyd, Syracuse University, took charge of the phone survey. Five undergraduate seniors and a secretary assisted her in calling those she could not reach herself. All were trained in telephone interviewing techniques, all students were paid, and all were required to "pass off" with one of the coauthors before making any calls. It was decided that the first coauthor, Dennis Martin, should limit himself to calling only those on the list that did not use his software. There was concern that if he interviewed professors who adopted his text and software, *Media Flight Plan,* bias may result. He conducted nine interviews; most of the respondents were adjunct faculty.

Results: 71 schools participated in phone survey

Of the 111 schools contacted, 73 offered an undergraduate media course. Of the 73 schools that offered a media planning course, 71 participated in the survey. All calls were completed within a 12 day period. Of the two schools missed, one professor was out of town during the survey period, and the other had to quit half way through the interview, and could not be reached again after six attempts. In addition to Billy Ross' list, credit should also be given to two directories that served as alternate sources for phone numbers: The 1990-91 *American Academy of Advertising Directory of Members,* and the 1990 *Journalism & Mass Communication Directory.*

Because there were fewer than 100 responses, most quantitative results will be reported as raw numbers instead of percentages. Also, in the interest of the reader's time, only the most significant findings will be reported here. Those interested in more detail are invited to write or call the authors.

Organization

Compared with the April 1988 Lancaster mail survey, there are eight more schools now offering the media course. As of March 1991, 73 schools reported having the media course in their curriculum, compared with 65 schools in 1988. The increase since the 1988 study may be actual, but it may also be the result of different sampling and survey methods (mail versus phone) used in the two studies.

The vast majority of the schools (61) continue to operate on the semester system, compared with only ten meeting on a quarter system. Also, among the 61 schools on the semester system, all but one (60) offer three credit hours for the course. Of the 71 instructors surveyed, well over half (44) have been teaching the media course for five years or more. Almost one fourth (17) have been teaching media for ten years or more.

Textbooks, Workbooks, and Computer Software

When asked to *select only one text* as their ***major*** textbook, 51 instructors named Sissors and Bumba. Four instructors named McGann and Russell, an equal number (4) named Surmanek, followed by Lancaster and Katz (3), and Barban, Cristol and Kopec (2). When asked if they used a "workbook or exercise book," the majority (25) named Sissors and Goodrich, followed by Martin, Coons, Mani and James (17), Barban, Jugenheimer and Turk (3), plus a significant number of professors (6) who had developed their own exercises. "Full-featured" software (software capable of generating national and spot reach/frequency estimates) is now being used in just over half (36) of the universities surveyed. Of the 36 schools using "full-featured" media planning software, Martin and Coons' *Media Flight Plan* was mentioned most frequently (19),

followed by Lancaster's *Ad Plan, Ad Lab or Ad Plus* (13). In addition, four professors had developed their own "full-featured" software using Lotus or a similar engine.

Satisfaction with commercially published software "somewhat high"

The level of satisfaction with published software, whether developed by Martin or by Lancaster, was virtually a tie. When asked to judge satisfaction on a scale of one to five, one representing extremely low satisfaction, five extremely high satisfaction, respondents gave Martin's software an average score of 3.89; Lancaster's software scored an average 3.76. Both software packages scored close enough to a 4 to be considered "somewhat high" in level of satisfaction, but well below a perfect score of 5 (extremely high). This suggests both authors' software is highly valued, but it also suggests plenty of room for improvement.

Impact of Software on Media Course

To evaluate the impact of software on the media course, the questionnaire was designed to distinguish variations between two unique groups. software users and non-users. Non-users of software became the control group, and users (instructors who had already adopted software) became the experimental group. The dependent variable became the number of hours each group spent teaching basic media concepts. Each professor was asked to estimate roughly the number of hours s/he spent teaching various media concepts. This was done before any mention of software, so the respondents were completely unaware of one of the key objectives, i.e. - to get responses from a control group that *did not use software*, and to compare their responses with responses of the experimental group that *did use software*.

For software users, methodology required extending the interview with nine extra questions. These questions would be asked only of those professors who had used a "full-featured" software program. These nine extra questions dealt with perceived changes in the way the media course was being taught *after* the adoption of software. (If a professor had always taught with software, the survey was terminated without asking the nine extra questions). The objective in this second method was to see if professors who had adopted software perceived any changes in the course compared to their prior experience without software.

Software Users Compared with Non-Users

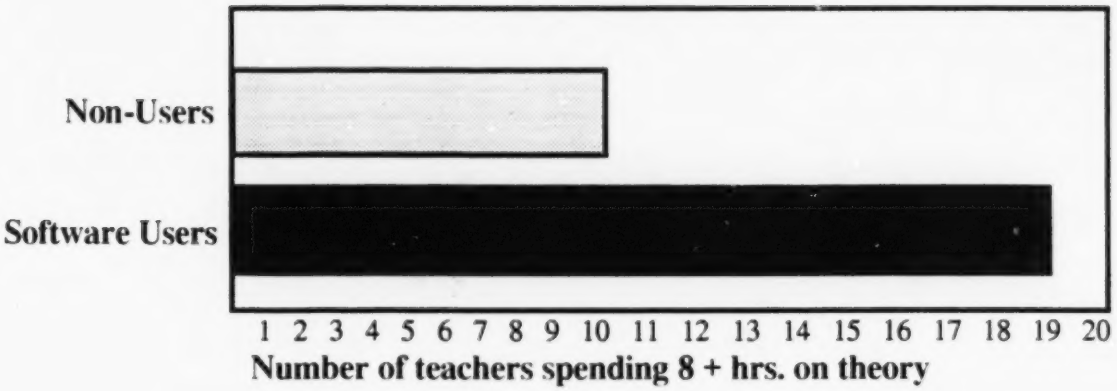
Comparing these two groups yields one of the most intriguing results of the study. In numbers, the groups are almost evenly divided. For software users: n = 36; for non-users: n = 35. The most significant difference between users and non-users is the estimated time they spend teaching theoretical media concepts, like response curves, reach-frequency theory, effective frequency theory, etc.

See question # 3 below. Note that non-users of software spend an estimated 5.94 hours teaching reach/frequency theory each semester or quarter. In contrast, software users spend an estimated 7.36 hours teaching reach/frequency theory. This amounts to almost 1 1/2 hours more time spent by software users than non-users teaching theoretical reach/frequency concepts. When viewing the data in greater detail, the authors discovered that 19 of the 28 software users said they spend eight or more hours teaching such theory. In contrast, only 10 of the non-users said they spend eight or more hours teaching theory. (See bar graph on next page). Returning to Table I, there are other significant trends. See question #1, for example: Note that software users spend slightly less time (37 minutes) teaching media math. A possible conclusion is that computers are doing

Table I
Software Users Compared with Non-Users on Scale of 1 to 10 Hours

Questions	Users N=36	Non-Users N=35	Difference expressed in real time
	Mean Hrs.	Mean Hrs.	
1. On a scale of one to ten, roughly estimate how many hours you spend ***teaching media math***. each semester/qtr. For example, how to calculate CPMs, GRPs, cost per point., reach/frequency, etc.	**6.64 hrs.**	**7.26 hrs.**	**+ 37 min.** (non-users)
2. Estimate how many hrs. you spend ***teaching syndicated data***, like Simmons, Media Mark, Nielsen, etc. Use the same scale; 1-10 hrs.	**5.50 hrs.**	**6.24 hrs.**	**+ 45 min.** (non-users)
3. Estimate how many hours you spend teaching ***theoretical media concepts***. . . like response curves, reach-frequency theory, effective frequency theory, etc. (Same scale: 1-10 hrs.)	**7.36 hrs.**	**5.94 hrs.**	**- 1 hr 25 minutes** (non-users)
4. Estimate how many hours you spend teaching ***marketing related aspects of media*** planning, like how to write marketing motivated media obj. and strategies. (Same scale 1-10 hrs.)	**5.97 hrs.**	**6.65 hrs.**	**+ 41 min.** (non-users)
5. Estimate how many hours you spend teaching ***how to create, organize and write*** complete media plans. (Same scale: 1 to 10 hrs.)	**6.36 hrs.**	**5.85 hrs.**	**- 31 min.** (non-users)
6. Estimate how many hours you spend teaching ***how to use media rate books***. . . skills used to estimate media vehicle costs, or to estimate reach/frequency values. (Same scale: 1-10 hrs.)	**4.0 hrs.**	**4.24 hrs.**	**+ 14 min.** (non-users)

Table II



more of the math. According to question 2, software users also spend less time (45 minutes less) than non-users teaching syndicated data. On question 4: Non-users appear to spend more time on marketing. They report spending 41 minutes more time teaching the marketing related aspects of media planning. On question 5: Perhaps due to an emphasis on case studies, software users invest slightly more time (31 minutes more) teaching students how to create, organize and write complete media plans. As for the last question on table I, (how to use media rate books) the difference between users and non-users is only 14 minutes. It must be concluded that both groups spend about the same time teaching students how to use media rate books.

Before-After Questions Addressed to Software Users Only

As the survey concluded, nine questions evaluated how professors perceived changes in the media course *after* the adoption of software. Eight professors said they had only recently begun teaching media, and they had always included software in their course. Since they could not relate to the last nine questions, they were terminated from the interview at this point. Subsequently, the sample of software users who qualified for the last nine questions dropped from 36 to 28. A noteworthy observation about the 28 professors who used to teach media *without* software is that most show a moderate to extreme increase in satisfaction *after adopting computer software.* For example, their answers to questions 1, 2, 3 and 4 (see Table III on next page) skewed toward the "extreme increase" side of the scale. On question #2 for example, 24 of 28 professors (87%) answered with a 4 or 5, claiming a *moderate to extreme increase in student interest* since adopting software. On question #3, a

slightly higher number, 25 of 28 teachers (89%) answered with a 4 or 5, claiming *moderate to extreme increases in their own feelings of satisfaction* after adopting software. Question #4 reveals that software users have increased the strategic planning and writing required in their media courses. A mean of 3.91 on question #4 resulted from 18 of 28 teachers ranking it as high as 4 or 5. This indicates that well over half (64%) of software users have significantly increased their emphasis on strategic planning and writing *after* adopting software. The value on question #5 (2.68) borders on a 3 (3=no change). Further analysis of the data shows that 13 of the 28 respondents (almost half) rated it at 1 or 2. Thus, almost half of the teachers have moderately or extremely *reduced* the amount of number hunting-crunching after adopting software. Of the 28 teachers who responded to these questions, just over one

Table III
Teacher Perceptions After Adopting Software

Percent who answered "moderate" to "extreme" increase.	Questions	N=28 (Means)
61% (17 of 28 answered moderate to extreme increase.)	***1. Has computer software caused much change in the way you teach your media course?*** 1= extremely little change; 3=moderate change; 5= extremely big change since adopting software.	**3.54**
87% (24 of 28 answered moderate to extreme increase.)	**2.** Do you feel your ***students' interest has decreased or increased since adopting software?*** 1=extreme decrease; 3=no change; 5=extreme increase).	**4.14**
89% (25 of 28 answered moderate to extreme increase.)	***3. Since adopting software, rank your own feelings of satisfaction*** in teaching the media class. 1=extreme decrease; 3=no change; 5=extreme increase	**4.12**
64% (18 of 28 answered moderate to extreme increase.)	**4.** Since adopting software, ***do your students do less, or more strategic planning and writing?*** Same type of scale: 1=much less time; 3=no change; 5=much more time in strategy and writing.	**3.91**
	5. Since adopting software, do your ***students do less, or more number-hunting/crunching?*** 1= extreme reduction; 3=no change; 5=extreme increase.	**2.68**
	6. *Estimate how many hours of extra time your software has freed up to teach new concepts.* *Answer based on scale of 1 to 10.	**7.20***

third (10) answered "yes" when asked, "Has the computer freed up any extra time for you to teach new concepts in your course?" As a follow-up, this group was asked to estimate how many hours of extra time their software has freed up, using a scale of 1 to 10-plus hours. The average time freed up by the software was 7.20 hours. Based on a three credit hour course that meets about three hours a week, this amounts to over two weeks of class time reinvested into teaching new concepts. Since this involves a third of all respondents, further study is called for on this question, expecially if software is actually capable of freeing up time to teach new concepts. Where does the time come from? What gets thrown out? How is the time used? Also, why are only one third of software users generating extra time?

Open-ended Responses

The very last survey question was, "What's the single biggest difference in the *way you teach media now, compared to teaching it without computer software?*" Examples of comments from the 28 respondents follows:

- We can now emphasize media strategy. . . can do much more hands-on strategic planning.
- Less time is spent on mechanics, like CPMs. More time is spent on why you use different strategies rather than on mathematics.
- Have more time to concentrate on the theories and strategies involved with media planning.
- My media course is much more conceptual with software. Students do much more creative thinking with their media strategies. Much less boiler plate writing. We're much more interested with the composition of the media plan. There's much less worry with the details like calculating CPMs, etc.
- More one-on-one with students. . . allows working with small groups.
- I can now expect more complete plans from students, better presentations, improved writing.
- Software lets us interact more with Nielsen ratings and MRI.
- Less panic. . . less horror associated with calculating reach/frequency.
- I don't have to spend so much time teaching media math. . . allows me time to talk about media theory.
- Students are now in total control of the planning process. . . they can now work outside class on their own.

Positive references about spending more time on "media strategy" and/or "theory" were made most often (13 times) in these open-ended responses. Moreover, 10 respondents said software allowed them to spend less time teaching "skills" or "mechanics." Hence, software users perceive that they are investing more time into teaching ideas about *media strategy* , and less time is being spent teaching skill-oriented tasks. Further investigation (perhaps a qualitative study with more open-ended questions) is needed to determine the depth of change taking place in skill-oriented teaching versus strategic-oriented teaching among software users.

There were only three negative comments out of the 28 open-ended responses. One teacher said, "It [software] diminishes creative media planning. . . discourages spot buying and qualitatively based planning." Another said, "It hasn't changed that much. I believe in teaching the basic concepts, but it is making grading harder . . . grading becomes subjective." A third said, "I spend more time teaching software instead of concepts."

Discussion

Most teachers using software are enthusiastic about teaching media planning. Among the 50 percent who have adopted software, "feelings of satisfaction in teaching the media class" increased significantly after the addition of software. Most express the view that software is a tool that allows them to explore some of the broader issues of media planning. They express the attitude that media planning involves much more than mechanics and skills. There are strong indications that software users understand that media planning involves every dimension of advertising, including not only quantitative analysis, but also careful consideration of qualitative factors.

The most significant change in the software user's approach to teaching the media course was best described by one professor as "the lifting of a great burden." Without software, teaching the media course was characterized as a form of "manual labor," especially when trying to teach students how to *apply* the basic tools needed to create a complete multi-media plan. Creating a complete media plan in an academic environment without dedicated software has always been possible, but the cost in time was heavy. After drilling students on dozens of

formulas and calculations, too little time was left over to focus on one of the most important things a university should teach - the art of thinking and grappling with strategic, theoretical problems - especially teaching students to ask: *Why this strategy or why another?* Evidence from this study suggests that dedicated media planning software can help lift a significant part of the burden of repetitive calculations required in creating a complex multi-media plan.

Perhaps the most significant development in the computerized media course is best described philosophically. The authors of this paper believe that a student's ability to recite definitions of GRPs and CPMs will have little value in a job interview. The currency of greatest value to advertising graduates is based, instead, on mastery of the art of thinking through complex marketing problems, and writing strategically sound plans. The results of this study suggest that most media teachers already know what is most important in a university education - that it is not advertising itself, nor is it mastery of media planning skills. It is the *process* of strategic thinking, planning and writing. Skills and mechanics, although essential as a foundation, should not be the quintessential goal in delivering an advertising education.

This brings us full circle to the idea mentioned at the outset of this paper:

> *A rudimentary knowledge of math and an awareness of how to calculate CPMs and GRPs won't do the trick, as buying and planning media becomes more numbers oriented. . . The ability to judge media properties on a social/emotional level is becoming just as important as watching the numbers.*

It may be difficult to serve both masters (media skills versus strategic planning and writing) with equal intensity in a three hour class. Some kind of compromise appears necessary. With dedicated media planning software making a significant impact in over half of the advertising programs in the nation, perhaps now is the best time for educators to explore and debate this question with considerable passion.

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